

## Claims

1. A method for providing location service information related to a mobile station (MS) in a mobile communications system supporting connections of a first type (L5) and a second type (L3, L7), the method comprising the steps of:

5        receiving a request (20, 301) from a requesting entity;  
         retrieving (22, 308) said location service information related to said mobile station (MS); and  
         providing a response (28, 311) to said request;  
         characterized by  
10        determining (21) a preferred type of connection for said retrieving step on the  
         basis of a first set of predetermined criteria (304, 306); and  
         performing, in said retrieving step, at least a first attempt (22) via said preferred type of connection.

2. A method according to claim 1, characterized in that said first set of  
15        predetermined criteria comprises checking (304) whether the mobile station (MS) currently has an active connection via at least one of said types of connection.

3. A method according to claim 2, characterized in that said checking is based on examining said request (301).

4. A method according to any one of the preceding claims, characterized  
20        in that, if said first attempt results in a failure, a second set of predetermined criteria comprises the reason for the failure, and said retrieving step comprises per-

forming a second attempt (26) via the remaining type of connection in response to fulfillment of said second set of predetermined criteria.

5. A method according to claim 4, characterized in that said second set of predetermined criteria is fulfilled if:

5       said first attempt fails but the reason for the failure is not "service not allowed";  
and

      said second attempt via the remaining type of connection has not been unsuccessfully performed earlier.

6. A method according to any one of the preceding claims, characterized  
10    in that said first type of connection (L5) is circuit-switched and said second type of connection (L3, L7) is packet-switched.

7. A method according to claim 6, characterized in that, if said mobile station (MS) is having an ongoing call, said preferred type of connection is circuit-switched (L5), otherwise it is packet-switched (L3, L7).

15       8. A method according to claim 6 or 7, characterized by establishing circuit-switched communications for the mobile station (MS) if said packet-switched communications are not established.

9. A method according to any one of claims 6 to 8, characterized by establishing at least one implicit Packet Data Protocol, or PDP, context.

10. A method according to claim 9, characterized in that said step of establishing the PDP context comprises allocating a predefined Network layer Service Access Point Identifier, or NSAPI, value.

11. A method according to claim 9 or 10, characterized in that said at  
5 least one implicit PDP context is established between the mobile station (MS) and the support node (SGSN).

12. A method according to any one of claims 9 to 11, characterized in  
that said at least one implicit PDP context is established between the support node  
(SGSN) and a Serving Mobile Location Centre (SMLC) currently serving the mobile  
10 station (MS).

13. A method according to any one of claims 9 to 11, characterized in  
that at least one explicit PDP context is established between the support node (SGSN)  
and a Serving Mobile Location Centre (SMLC) currently serving the mobile station  
(MS).

14. A method according to any one of the preceding claims, characterized  
15 in that said request (301) is received by a Gateway Mobile Location Centre  
(GMLC), which retrieves said location service information via a Mobile Services  
Switching Centre (VMSC), which in turn retrieves said location service information  
via a Serving Mobile Location Centre (SMLC):

20 directly (307a) if a circuit-switched connection has been established for said  
mobile station; and otherwise

indirectly (305b, 307b) via a Serving GPRS Support Node (SGSN).

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15. A method according to claim 14, characterized in that said Gateway Mobile Location Centre (GMLC) sends to said Mobile Services Switching Centre (VMSC) the address of said Serving GPRS Support Node (SGSN).

16. An arrangement (GMLC, VMSC) for supporting location service information related to a mobile station (MS) in a mobile communications system supporting circuit-switched communications and packet-switched communications, the arrangement being adapted to:

receive a request (20, 301) from a requesting entity;

retrieve (22, 308) said location service information related to said mobile station (MS); and

provide a response (28, 311) to said request;

characterized in that said arrangement (GMLC, VMSC) is adapted to:

determine (21) a preferred type of connection for said retrieving on the basis of a first set of predetermined criteria (304, 306); and to

perform at least a first attempt (22) via said preferred type of connection.

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